2b. Leaf, × 15.
2c. Upper cells, × 125.
2d. Leaf apex, × 50.
2e. Peristome tooth in profile, × 100.
2f. Part of peristome, showing three teeth; median as seen by transmitted light; right, dorsal face; left, ventral face; × 75.

NOTES ON USEFUL AND HARMFUL MOSSES

T. C. Frye

In general mosses are considered neither useful nor harmful, with the exception of Sphagnum, about whose usefulness we have heard much during the recent war. The facts concerning the effects of mosses upon man and his activities should however be recorded. Possibly this could be most successfully done in the form of short notes on observations and experience. In the hope that others may be encouraged to send such information to The Bryologist the following is presented:

Dicranoweisia cirrhata is one of the first mosses to appear on shingle roofs in western Washington. North roofs are much more readily covered than south ones, on account of the retention of the moisture. Soot and dust are held and thus soon a sort of soil is accumulated. In shade, a new roof may be covered with moss within 10 years. Washington shingles are made of cedar (*Thuja*), which strongly resists fungi and bacteria; but the dampness held by the moss and soil very greatly increases decomposition. The remedy is to creosote the roof every few years.

Ceratodon purpureus appears in the tufts of *Dicranoweisia cirrhata* on Washington roofs, but it does not take hold first on a new roof, so far as I know.

Rhacomitrium canescens ericoides sometimes takes all the other mosses on a north roof, and seems to find it one of its best habitats for the production of capsules. This was observed on quite old roofs at Friday Harbor, Washington.

Bryum argenteum was observed to be the chief moss on an old north shingle roof near Aberdeen, Mississippi. The shingles were cypress. This causes one to wonder whether the kind of wood of which the shingles are made has anything to do with the species of moss which grows on the roof.

Neckera Menziesii is used occasionally by Japanese market gardeners in the vicinity of Seattle, Washington, as a packing for asparagus and lettuce, to retain moisture. It is so far inferior to sphagnum for this purpose than it is questionable whether this is not done through ignorance.

Brachythecium albicans takes the grass in lawns in western Washington when the dampness is excessive, usually through over-watering. Shade increases the dampness and thus favors the moss. The remedy is to water less, or to scatter lime, or both.

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